

MCF 3M

Review of key Skills
Recognizing Graphs
Translations
Expansion
Factoring
Identifying the 2 Zeros/Roots
Finding Vertex Form -
Completing the Square

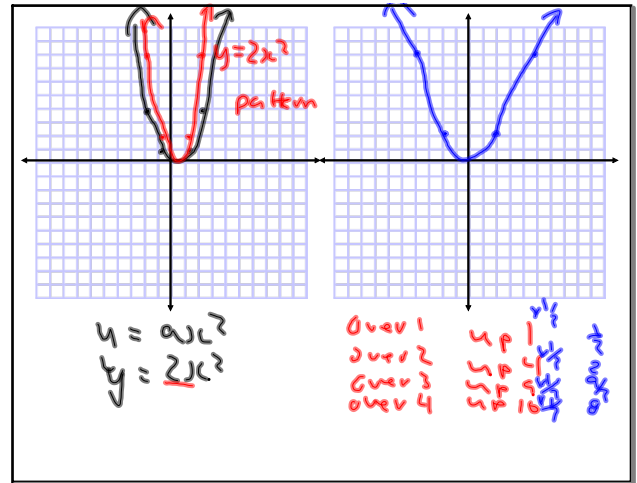
Test Wed

Finding Standard Form
Quadratic Formula

p 186 q 3-7,9, 11-18
p 226 1,2,3,4 & 5
p254-255 q 1-10

WORD
PROBL

Mar 10-8:12 AM



Mar 11-10:12 AM

Complete The Square

$$\begin{aligned} f(x) &= -4x^2 - 8x + 12 \\ f(x) &= -4(x^2 + 2x) + 12 \quad \text{partial factor} \\ f(x) &= -4(x^2 + 2x + 1 - 1) + 12 \quad \left(\frac{b}{2}\right)^2 \\ f(x) &= -4[(x+1)^2 - 1] + 12 \quad \left(\frac{b}{2}\right)^2 \\ f(x) &= -4(x+1)^2 + 4 + 12 \\ f(x) &= -4(x+1)^2 + 16 \quad [-1, 16] \end{aligned}$$

Mar 11-9:43 AM

$$\begin{aligned} f(x) &= x^2 + 2x - 35 \\ f(x) &= x^2 + 7x - 5x - 35 \\ f(x) &= x(x+7) - 5(x+7) + 2 \quad \begin{array}{l} \text{factored} \\ \text{zeros} \end{array} \\ &= (x+7)(x-5) + 2 \quad \begin{array}{l} \text{A} \text{ M} \\ -35 \\ \hline 5 \quad 7 \end{array} \\ &\quad \begin{array}{l} 5 = -7 \quad 7 = +5 \end{array} \end{aligned}$$

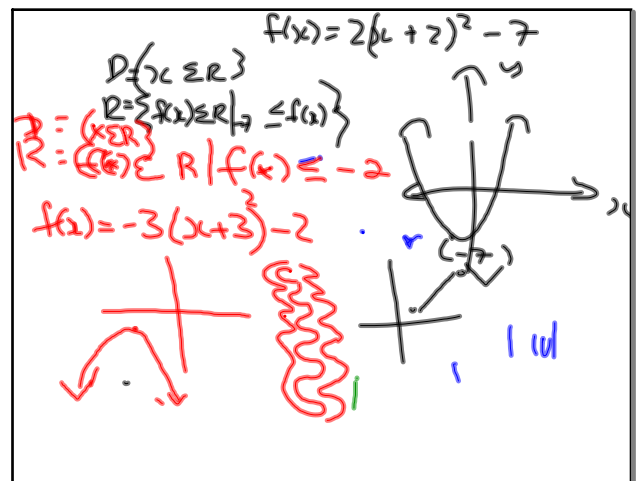
Mar 11-10:07 AM

p 223 q 7 A = 400

$$\begin{aligned} f(x) &= 60x - 2x^2 \quad \begin{array}{l} \text{max} \\ \text{coeff} \end{array} \\ 400 &= 60x - 2x^2 \\ 0 &= 60x - 2x^2 - 400 \\ 0 &= -2x^2 + 60x - 400 \\ 0 &= 2x^2 - 60x + 400 \\ a &= 2 \quad b = -60 \quad c = 400 \\ x &= \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \\ &= \frac{-(-60) \pm \sqrt{(-60)^2 - 4(2)(400)}}{2(2)} \\ &= \frac{60 \pm \sqrt{3600 - 3200}}{4} \\ &= \frac{60 \pm \sqrt{400}}{4} \\ &= \frac{60 \pm 20}{4} \\ x &= \frac{60+20}{4} = \frac{80}{4} = 20 \quad x = \frac{60-20}{4} = \frac{40}{4} = 10 \\ x &= 20 \quad x = 10 \\ 20 &\times 40 = 800 \quad 10 \times 40 = 400 \end{aligned}$$

Therefore the optimal dimensions of a fence with an area of 4000 is 20x20 or 10x40.

Mar 24-10:52 AM



Mar 24-10:57 AM

#7

Sally

$$h(t) = -5t^2 + 10t$$

$$h(t) = -5(t^2 - 2t)$$

$$h(t) = -5(t^2 - 2t + 1 - 1)$$

$$h(t) = -5(t-1)^2 + 5$$

$$(1, 5)$$

The ball reaches a minimum height of 5m at 1 sec. Therefore it is a dangerous ball.

$t = 5$
 $h(t) = m$

Dangerous Ball
3m

Nov 2-9:39 AM

p 120-121 q. 11, 12, 15, 16 & 18

p184 q. 1-10

Nov 2-8:39 AM